

What is claimed is:

1. A method for drug delivery comprising the steps of providing an implantable agent-release body carrying at least one pharmacologically active agent, and implanting the agent-release body in a  
5 targeted site within the gastrointestinal (GI) tract for sustained release of the pharmacologically active agent in the region of the duodenum and small intestine.

2. A method as in claim 1 wherein the implanting step includes utilizing attachment means to attach the agent-release body to a wall of the GI tract.

10 3. A method as in claim 2 wherein the agent-release body is attached to a wall of the duodenum.

4. A method as in claim 1 wherein the implanting step includes deployment of the agent-  
15 release body from a first shape to a second shape.

5. A method as in claim 4 wherein the providing step includes fabricating the agent-release body at least partly of a biodegradable polymer.

20 6. A method as in claim 4 wherein the providing step includes fabricating the agent-release body at least partly of a shape memory polymer.

7. A method as in claim 1 wherein the agent-release body releases an agent selected from the class consisting of antibiotics, antibacterial agents, anti-fungal agents, anti-viral agents, anti-allergens, anesthetics, analgesics, cell transport/mobility impeding agents, decongestants, anti-diabetic agents, anti-cancer agents, immunosuppressants, immunological response modifiers, hormones, cell cycle inhibitors, gene therapy compounds, mitotics, anticlotting agents, peptides and nucleic acids.

8. A biomedical implant comprising an elongated flexible implant body dimensioned for extending within the GI tract implantation from the region of duodenal bulb or duodenum, attachment means at an end portion of the implant body and at least one pharmacologically active composition within the implant body.

9. The biomedical implant wherein the implant body is at least partly of a biodegradable polymer.

10. The biomedical implant of claim 8 wherein the implant body comprises a biodegradable polymer with the pharmacologically active composition carried therein.

11. The biomedical implant wherein the implant body is at least partly of a shape memory polymer.

12. The biomedical implant of Claim 9 wherein the biodegradable polymer is at least in part a hydrogel.

13. The biomedical implant of claim 8 wherein the attachment means is selected from the class consisting of a barb-tipped member, a toggle-tipped member, a staple, a spring clip, a polymer clip, a helically-formed fastener, an adhesive fastener, a thermal-energy adhering member and a band-type mechanism  
5 for disposition around a tissue protrusion.

14. The biomedical implant of Claim 11 wherein the implant body defines a first temporary shape for introduction and a second memory shape for extending within the GI tract.

10 15. The biomedical implant of Claim 8 wherein the pharmacologically active composition is selected from the class consisting of antibiotics, antibacterial agents, anti-fungal agents, anti-viral agents, anti-allergens, anesthetics, analgesics, cell transport/mobility impeding agents, decongestants, anti-diabetic agents, anti-cancer agents, immunosuppressants, immunological response modifiers, hormones, cell cycle inhibitors, gene therapy compounds, mitotics, ant clotting agents, peptides and nucleic acids.

15 16. The biomedical implant of Claim 8 further comprising transducer means in the implant body for acquisition of data concerning a physiological parameter about the duodenum or small intestine and transmission means for transmitting the data to an external monitoring system.

20 17. The biomedical implant of Claim 16 wherein the transducer means and transmission means include a transponder system.

18. A drug-eluting implant comprising a first portion of a shape memory polymer (SMP) portion and a second portion of a pharmacologically active composition, the shape memory polymer capable of a temporary shape and a memory shape.

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19. The drug-eluting implant as in claim 18 wherein the shape memory polymer has a compact temporary shape and an elongated memory shape.

20. The drug-eluting implant as in claim 18 further comprising a fastener portion for  
10 fastening an end of the implant the wall of a body lumen.